

#2



OIPE

RAW SEQUENCE LISTING

00 (003 060

DATE: 01/16/2002

PATENT APPLICATION: US/09/903,068

TIME: 15:53:53

Input Set : N:\Crf3\RULE60\09903068.raw
Output Set: N:\CRF3\01162002\I903068.raw

SEQUENCE LISTING

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3 (1) GENERAL INFORMATION:
             (i) APPLICANT: Miyazono, Kohei; Dijke, Peter Ten;
      6
                            Franzen, Petra; Yamashita, Hidetoshi; Heldin, Carl-Henrik
      8
            (ii) TITLE OF INVENTION: Activin Receptor-Like Kinase, Proteins
      9
                                      Having Serine Threonine Kinase Domains And Their Use
     11
           (iii) NUMBER OF SEQUENCES: 29
     13
            (iv) CORRESPONDENCE ADDRESS:
     14
                  (A) ADDRESSEE: Felfe & Lynch
     15
                  (B) STREET: 805 Third Avenue
     16
                  (C) CITY: New York City
     17
                  (D) STATE: New York
     18
                  (F) ZIP: 10022
     20
             (V) COMPUTER READABLE FORM:
     21
                  (A) MEDIUM TYPE: Diskette, 3.5 inch, 360 kb storage
     22
                  (B) COMPUTER: IBM
                                                                     ENTERED
     23
                  (C) OPERATING SYSTEM: PC-DOS
     24
                  (D) SOFTWARE: Wordperfect
     26
            (vi) CURRENT APPLICATION DATA:
                  (A) APPLICATION NUMBER: US/09/903,068
C--> 27
C--> 28
                  (B) FILING DATE: 11-Jul-2001
     62
           (vii) PRIOR APPLICATION DATA:
     31
                  (A) APPLICATION NUMBER: 09/679,187
     32
                  (B) FILING DATE:
     35
                  (A) APPLICATION NUMBER: PCT/GB93/02367
                  (B) FILING DATE: 17-November-1993
     36
     39
                  (A) APPLICATION NUMBER: 9224057.1
     40
                  (B) FILING DATE: 17-November-1992
                  (A) APPLICATION NUMBER: 9304677.9
     43
     44
                  (B) FILING DATE: 8-March-1993
     47
                  (A) APPLICATION NUMBER: 9304680.3
                  (B) FILING DATE: 8-March-1993
     48
     51
                  (A) APPLICATION NUMBER: 9311047.6
     52
                  (B) FILING DATE: 28-May-1993
     55
                  (A) APPLICATION NUMBER: 9313763.6
     56
                  (B) FILING DATE: 2-July-1993
     59
                  (A) APPLICATION NUMBER: 9136099.2
     60
                  (B) FILING DATE: 3-August-1993
     63
                  (A) APPLICATION NUMBER: 9321344.5
     64
                  (B) FILING DATE: 15-October-1993
     66
          (viii) ATTORNEY/AGENT INFORMATION:
     6.7
                  (A) NAME: Kohlei, Vineet
     68
                  (B) REGISTRATION NUMBER: 37,003
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|---|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 69 (C) REFERENCE/DOCKET NUMBER: LUD 5298 | | | | | | | | | | | | | | |
| 71 (ix) TELECOMMUNICATION INFORMATION: | | | | | | | | | | | | | | |
| 72 (A) TELEPHONE: (212) 688-9200 | | | | | | | | | | | | | | |
| 73 (B) TELEFAX: (212) 838-3884 | | | | | | | | | | | | | | |
| 7 (2) INFORMATION FOR SEQ ID NO: 1: | | | | | | | | | | | | | | |
| 78 (i) SEQUENCE CHARACTERISTICS: | | | | | | | | | | | | | | |
| 79 (A) LENGTH: 1984 base pairs | | | | | | | | | | | | | | |
| 80 (B) TYPE: nucleic acid | | | | | | | | | | | | | | |
| 81 (C) STRANDEDNESS: unknown | | | | | | | | | | | | | | |
| 82 (D) TOPOLOGY: linear | | | | | | | | | | | | | | |
| 83 (ii) MOLECULE TYPE: cDNA | | | | | | | | | | | | | | |
| 84 (iii) HYPOTHETICAL: NO | | | | | | | | | | | | | | |
| 85 (iv) ANTI-SENSE: NO | | | | | | | | | | | | | | |
| 86 (v) FRAGMENT TYPE: internal | | | | | | | | | | | | | | |
| 87 (vi) ORIGINAL SOURCE: | | | | | | | | | | | | | | |
| 88 (A) ORGANISM: Homo sapiens | | | | | | | | | | | | | | |
| 89 (ix) FEATURE: | | | | | | | | | | | | | | |
| 90 (A) NAME/KEY: CDS | | | | | | | | | | | | | | |
| 91 (B) LOCATION: 2831791 | | | | | | | | | | | | | | |
| 92 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1: | 60 | | | | | | | | | | | | | |
| 94 AGGAAACGGT TTATTAGGAG GGAGTGGTGG AGCTGGGCCA GGCAGGAAGA CGCTGGAATA | 60 120 | | | | | | | | | | | | | |
| 96 AGAAACATTT TTGCTCCAGC CCCCATCCCA GTCCCGGGAG GCTGCCGCGC CAGCTGCGCC | 120 | | | | | | | | | | | | | |
| 98 GAGCGAGCCC CTCCCCGGCT CCAGCCCGGT CCGGGGCCGC GCCGGACCCC AGCCCGCCGT | 180 240 | | | | | | | | | | | | | |
| 100 CCAGCGCTGG CGGTGCAACT GCGGCCGCC GGTGGAGGGG AGGTGGCCCC GGTCCGCCGA 102 AGGCTAGCGC CCCGCCACCC GCAGAGCGGG CCCAGAGGGA CC ATG ACC TTG GGC | 294 | | | | | | | | | | | | | |
| 102 AGGCTAGCGC CCCGCCACCC GCAGAGCGGG CCCAGAGGGGA CC ATG ACC TTG GGC 103 Met Thr Leu Gly | 294 | | | | | | | | | | | | | |
| 103 Rec Ini Led Gly 104 1 | | | | | | | | | | | | | | |
| 106 TCC CCC AGG AAA GGC CTT CTG ATG CTG CTG ATG GCC TTG GTG ACC CAG | 342 | | | | | | | | | | | | | |
| 107 Ser Pro Arg Lys Gly Leu Leu Met Leu Leu Met Ala Leu Val Thr Gln | 312 | | | | | | | | | | | | | |
| 108 5 10 15 20 | | | | | | | | | | | | | | |
| 110 GGA GAC CCT GTG AAG CCG TCT CGG GGC CCG CTG GTG ACC TGC ACG TGT | 390 | | | | | | | | | | | | | |
| 111 Gly Asp Pro Val Lys Pro Ser Arg Gly Pro Leu Val Thr Cys Thr Cys | | | | | | | | | | | | | | |
| 112 25 30 35 | | | | | | | | | | | | | | |
| 114 GAG AGC CCA CAT TGC AAG GGG CCT ACC TGC CGG GGG GCC TGG TGC ACA | 438 | | | | | | | | | | | | | |
| 115 Glu Ser Pro His Cys Lys Gly Pro Thr Cys Arg Gly Ala Trp Cys Thr | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| 116 40 45 50 | | | | | | | | | | | | | | |
| | 486 | | | | | | | | | | | | | |
| 118 GTA GTG CTG GTG CGG GAG GAG GGG AGG CAC CCC CAG GAA CAT CGG GGC | 486 | | | | | | | | | | | | | |
| | 486 | | | | | | | | | | | | | |
| 118 GTA GTG CTG GTG CGG GAG GAG GGG AGG CAC CCC CAG GAA CAT CGG GGC 119 Val Val Leu Val Arg Glu Glu Gly Arg His Pro Gln Glu His Arg Gly 120 55 60 65 | | | | | | | | | | | | | | |
| 118 GTA GTG CTG GTG CGG GAG GAG GGG AGG CAC CCC CAG GAA CAT CGG GGC 119 Val Val Leu Val Arg Glu Glu Gly Arg His Pro Gln Glu His Arg Gly 120 55 60 65 122 TGC GGG AAC TTG CAC AGG GAG CTC TGC AGG GGG CGC CCC ACC GAG TTC | 486 534 | | | | | | | | | | | | | |
| 118 GTA GTG CTG GTG CGG GAG GAG GGG AGG CAC CCC CAG GAA CAT CGG GGC 119 Val Val Leu Val Arg Glu Glu Gly Arg His Pro Gln Glu His Arg Gly 120 55 60 65 | | | | | | | | | | | | | | |
| 118 GTA GTG CTG GTG CGG GAG GAG GGG AGG CAC CCC CAG GAA CAT CGG GGC 119 Val Val Leu Val Arg Glu Glu Gly Arg His Pro Gln Glu His Arg Gly 120 55 60 65 122 TGC GGG AAC TTG CAC AGG GAG CTC TGC AGG GGG CGC CCC ACC GAG TTC 123 Cys Gly Asn Leu His Arg Glu Leu Cys Arg Gly Arg Pro Thr Glu Phe 124 70 75 80 | 534 | | | | | | | | | | | | | |
| 118 GTA GTG CTG GTG CGG GAG GAG GGG AGG CAC CCC CAG GAA CAT CGG GGC 119 Val Val Leu Val Arg Glu Glu Gly Arg His Pro Gln Glu His Arg Gly 120 55 60 65 122 TGC GGG AAC TTG CAC AGG GAG CTC TGC AGG GGG CGC CCC ACC GAG TTC 123 Cys Gly Asn Leu His Arg Glu Leu Cys Arg Gly Arg Pro Thr Glu Phe | | | | | | | | | | | | | | |
| 118 GTA GTG CTG GTG CGG GAG GAG GGG AGG CAC CCC CAG GAA CAT CGG GGC 119 Val Val Leu Val Arg Glu Glu Gly Arg His Pro Gln Glu His Arg Gly 120 55 60 65 122 TGC GGG AAC TTG CAC AGG GAG CTC TGC AGG GGG CGC CCC ACC GAG TTC 123 Cys Gly Asn Leu His Arg Glu Leu Cys Arg Gly Arg Pro Thr Glu Phe 124 70 75 80 126 GTC AAC CAC TAC TGC TGC GAC AGC CAC CTC TGC AAC CAC AAC GTG TCC | 534 | | | | | | | | | | | | | |
| 118 GTA GTG CTG GTG CGG GAG GAG GGG AGG CAC CCC CAG GAA CAT CGG GGC 119 Val Val Leu Val Arg Glu Glu Gly Arg His Pro Gln Glu His Arg Gly 120 55 60 60 65 122 TGC GGG AAC TTG CAC AGG GAG CTC TGC AGG GGG CGC CCC ACC GAG TTC 123 Cys Gly Asn Leu His Arg Glu Leu Cys Arg Gly Arg Pro Thr Glu Phe 124 70 75 80 126 GTC AAC CAC TAC TGC TGC GAC AGC CAC CTC TGC AAC CAC AAC GTG TCC 127 Val Asn His Tyr Cys Cys Asp Ser His Leu Cys Asn His Asn Val Ser | 534 | | | | | | | | | | | | | |
| 118 GTA GTG CTG GTG CGG GAG GAG GGG AGG CAC CCC CAG GAA CAT CGG GGC 119 Val Val Leu Val Arg Glu Glu Gly Arg His Pro Gln Glu His Arg Gly 120 55 60 60 65 122 TGC GGG AAC TTG CAC AGG GAG CTC TGC AGG GGG CGC CCC ACC GAG TTC 123 Cys Gly Asn Leu His Arg Glu Leu Cys Arg Gly Arg Pro Thr Glu Phe 124 70 75 80 126 GTC AAC CAC TAC TGC TGC GAC AGC CAC CTC TGC AAC CAC AAC GTG TCC 127 Val Asn His Tyr Cys Cys Asp Ser His Leu Cys Asn His Asn Val Ser 128 85 90 95 100 | 534 582 | | | | | | | | | | | | | |
| 118 GTA GTG CTG GTG CGG GAG GAG GGG AGG CAC CCC CAG GAA CAT CGG GGC 119 Val Val Leu Val Arg Glu Glu Gly Arg His Pro Gln Glu His Arg Gly 120 55 60 65 122 TGC GGG AAC TTG CAC AGG GAG CTC TGC AGG GGG CGC CCC ACC GAG TTC 123 Cys Gly Asn Leu His Arg Glu Leu Cys Arg Gly Arg Pro Thr Glu Phe 124 70 75 80 126 GTC AAC CAC TAC TGC TGC GAC AGC CAC CTC TGC AAC CAC AAC GTG TCC 127 Val Asn His Tyr Cys Cys Asp Ser His Leu Cys Asn His Asn Val Ser 128 85 90 95 100 130 CTG GTG CTG GAG GCC ACC CAA CCT CCT TCG GAG CAG CCG GGA ACA GAT | 534 582 | | | | | | | | | | | | | |
| 118 GTA GTG CTG GTG CGG GAG GAG GGG AGG CAC CCC CAG GAA CAT CGG GGC 119 Val Val Leu Val Arg Glu Glu Gly Arg His Pro Gln Glu His Arg Gly 120 55 60 65 122 TGC GGG AAC TTG CAC AGG GAG CTC TGC AGG GGG CGC CCC ACC GAG TTC 123 Cys Gly Asn Leu His Arg Glu Leu Cys Arg Gly Arg Pro Thr Glu Phe 124 70 75 80 126 GTC AAC CAC TAC TGC TGC GAC AGC CAC CTC TGC AAC CAC AAC GTG TCC 127 Val Asn His Tyr Cys Cys Asp Ser His Leu Cys Asn His Asn Val Ser 128 85 90 95 100 130 CTG GTG CTG GAG GCC ACC CAA CCT CCT TCG GAG CAG CCG GGA ACA GAT 131 Leu Val Leu Glu Ala Thr Gln Pro Pro Ser Glu Gln Pro Gly Thr Asp | 534 582 | | | | | | | | | | | | | |



| 135 136 | Gly | Gln | Leu | Ala 120 | Leu | Ile | Leu | Gly | Pro 125 | Val | Leu | Ala | Leu | Leu 130 | Ala | Leu | |
|------------|-------|-----|----------------|------------|--------------|-----|------|-------|-------------|------|-------|------|-------|------------|-------|-------|------|
| | GTG | GCC | CTG | | GTC | СТС | GGC | CTG | | САТ | GTC | CGA | CGG | | CAG | GAG | 726 |
| | | | | | Val | | | | | | | | | | | | |
| 140 | vai | AIG | 135 | OT1 | , 441 | шец | 011 | 140 | | | var | 1119 | 145 | **** 9 | 0111 | Olu | |
| | 7 7 C | CAC | | ccc | CTG | CNC | 3.00 | | CITIC | CCA | CAC | шсс | | CITIC | 7 m.c | CITIC | 774 |
| | | | | | | | | | | | | | | | | | //4 |
| | ьys | | Arg | GIY | Leu | HIS | | GIU | Lеu | GIA | GIU | | ser | ьeu | ше | Leu | |
| 144 | | 150 | | | | | 155 | | | | | 160 | | | ~~~ | 3 CM | 000 |
| | | | | | CAG | | | | | | | | | | | | 822 |
| | _ | Ala | Ser | Glu | Gln | _ | Asp | Thr | Met | ьeu | | Asp | Leu | ьeu | Asp | | |
| 148 | | | | | | 170 | | | | | 175 | | | | | 180 | |
| | | | | | GGG | | | | | | | | | | | | 870 |
| | Asp | Cys | Thr | Thr | Gly | Ser | Gly | Ser | Gly | | Pro | Phe | Leu | Val | | Arg | |
| 152 | | | | | 185 | | | | | 190 | | | | | 195 | | |
| 154 | ACA | GTG | GCA | CGG | CAG | GTT | GCC | TTG | GTG | GAG | TGT | GTG | GGA | AAA | GGC | CGC | 918 |
| 155 | Thr | Val | Ala | Arg | Gln | Val | Ala | Leu | Val | Glu | Cys | Val | Gly | Lys | Gly | Arg | |
| 156 | | | | 200 | | | | | 205 | | | | | 210 | | | |
| 158 | TAT | GGC | GAA | GTG | TGG | CGG | GGC | TTG | TGG | CAC | GGT | GAG | AGT | GTG | GCC | GTC | 966 |
| 159 | Tyr | Gly | Glu | Val | Trp | Arg | Gly | Leu | Trp | His | Gly | Glu | Ser | Val | Ala | Val | |
| 160 | | | 215 | | | | | 220 | | | | | 225 | | | | |
| 162 | AAG | ATC | TTC | TCC | TCG | AGG | GAT | GAA | CAG | TCC | TGG | TTC | CGG | GAG | ACT | GAG | 1014 |
| 163 | Lys | Ile | Phe | Ser | Ser | Arg | Asp | Glu | Gln | Ser | Trp | Phe | Arg | Glu | Thr | Glu | |
| 164 | - | 230 | | | | _ | 235 | | | | _ | 240 | - | | | | |
| 166 | ATC | | AAC | ACA | GTA | TTG | CTC | AGA | CAC | GAC | AAC | ATC | CTA | GGC | TTC | ATC | 1062 |
| | | | | | Val | | | | | | | | | | | | |
| | 245 | -1- | | | | 250 | | , | | - | 255 | | | - | | 260 | |
| | | TCA | GAC | ATG | ACC | | CGC | AAC | TCG | AGC | ACG | CAG | CTG | TGG | CTC | ATC | 1110 |
| | | | | | Thr | | | | | | | | | | | | |
| 172 | | | | | 265 | | 5 | | | 270 | | | | | 275 | | |
| _ | ACG | CAC | TAC | CAC | GAG | CAC | GGC | TCC | СТС | | GAC | ጥጥጥ | CTG | CAG | | CAG | 1158 |
| | | | | | Glu | | | | | | | | | | | | |
| 176 | | | -1- | 280 | 014 | | 011 | 501 | 285 | -1- | 1105 | | | 290 | 5 | 0 1. | |
| | ΔCG | CTG | CAC | | CAT | СТС | ССТ | СТС | | СПУ | ССТ | стс | ጥርሮ | | GCA | ጥርር | 1206 |
| | | | | | His | | | | | | | | | | | | 1200 |
| 180 | 1111 | шси | 295 | 110 | 1113 | шси | nia | 300 | n y | шси | niu | vai | 305 | nia | nru | Cyb | |
| | GGC | СПС | | CAC | CTG | CAC | стс | | አ ሞር | ጥጥር | CCT | እሮአ | | GGC | מממ | CCA | 1254 |
| | | | | | Leu | | | | | | | | | | | | 1234 |
| 184 | GLY | 310 | ALG | 1112 | пец | птэ | 315 | GIU | 116 | FIIC | GLY | 320 | GIII | Gry | цуз | FIO | |
| | ccc | | ccc | CAC | CGC | CAC | | 3 3 C | 7.00 | CCC | 3 3 m | | CITIC | CITIC | 7 7 C | N.C.C | 1302 |
| | | | | | Arg | | | | | | | | | | | | 1302 |
| | | тте | Ald | nis | Arg | _ | Pne | ьуѕ | ser | Arg | | vai | Leu | val | цуб | 340 | |
| 188 | | аша | a. c | mcm | maa | 330 | 000 | C3 C | OMC. | 000 | 335 | cam | cmc | N III C | 03.0 | | 1250 |
| | | | | | TGC | | | | | | | | | | | | 1350 |
| | Asn | Leu | GIN | Cys | Cys | тте | АТА | Asp | ьeu | _ | Leu | Ala | vaı | Met | | ser | |
| 192 | ~ ~ | | | | 345 | | | | | 350 | | | | - | 355 | | |
| | | | | | TAC | | | | | | | | | | | | 1398 |
| | GIn | GLY | Ser | _ | Tyr | Leu | Asp | ile | _ | Asn | Asn | Pro | Arg | | GLY | Thr | |
| 196 | | | | 360 | | | | | 365 | | | | | 370 | | | |
| | | | | | GCA | | | | | | | | | | | | 1446 |
| 199 | Lys | Arg | \mathtt{Tyr} | Met | Ala | Pro | Glu | Val | Leu | Asp | Glu | Gln | Ile | Arg | Thr | Asp | |
| | | | | | | | | | | | | | | | | | |



| 200 | | 375 | | | | | 380 | | | | | 385 | | | | |
|--|--|---|---|---|--|--|---|--|--|--|---|--|--|---|---------------------------------|--------------|
| 202 TG | ር ጥጥጥ | | TCC | ሞ አ ር | AAG | TGG | | GAC | ΔПС | ጥርር | GCC | | GGC | СТС | GTG | 1494 |
| 203 Cy | | | | | | | | | | | | | | | | |
| 204 | 390 | | | -1- | -1- | 395 | | F | | | 400 | | 1 | | | |
| 206 CT | | GAG | ATT | GCC | CGC | CGG | ACC | ATC | GTG | AAT | GGC | ATC | GTG | GAG | GAC | 1542 |
| 207 Le | u Trp | Glu | Ile | Ala | Arg | Arg | Thr | Ile | Val | Asn | Gly | Ile | Val | Glu | Asp | |
| 208 40 | _ | | | | 410 | _ | | | | 415 | _ | | | | 420 | |
| 210 TA | T AGA | CCA | CCC | TTC | TAT | GAT | GTG | GTG | CCC | AAT | GAC | CCC | AGC | TTT | GAG | 1590 |
| 211 Ty | r Arg | Pro | Pro | Phe | Tyr | Asp | Val | Val | Pro | Asn | Asp | Pro | Ser | Phe | Glu | |
| 212 | | | | 425 | | | | | 430 | | | | | 435 | | |
| 214 GA | C ATG | AAG | AAG | GTG | GTG | TGT | GTG | GAT | CAG | CAG | ACC | CCC | ACC | ATC | CCT | 1638 |
| 215 As | p Met | Lys | Lys | Val | Val | Cys | Val | Asp | Gln | Gln | Thr | Pro | Thr | Ile | Pro | |
| 216 | | | 440 | | | | | 445 | | | | | 450 | | | |
| 218 AA | | | | | | | | | | | | | | | | 1686 |
| 219 As | n Arg | Leu | Ala | Ala | Asp | Pro | | Leu | Ser | Gly | Leu | | Gln | Met | Met | |
| 220 | | 455 | | | | | 460 | | | | | 465 | | | | 0 . |
| 222 CG | | | | | | | | | | | | | | | | 1734 |
| 223 Ar | | Cys | \mathtt{Trp} | \mathtt{Tyr} | Pro | | Pro | Ser | Ala | Arg | | Thr | Ala | Leu | Arg | |
| 224 | 470 | | | | | 475 | | | | | 480 | | | | | 1700 |
| 226 AT | | | | | | | | | | | | | | | | 1782 |
| 227 Il | _ | Lys | Thr | Leu | | ГÄЗ | IIe | Ser | Asn | | Pro | GLu | гля | Pro | _ | |
| 228 48 | _ | ~~~ | ma 00 | 7001 | 490 | 2020 | -m | nm ~ | ~mmm/ | 495 | - maa | 13.000 | 3000 | | 500 | 1021 |
| 230 GT 231 Va | | _ | TAG | CCAC | -GA (| CACC | JTGA. | rr co | J.T.T.T.(| JIGCC | TGC | AGGC | -GGC | | | 1831 |
| | | | | | | | | | | | | | | | | |
| | | | ccc | יכאכיי | פר כז | ישכפיי | rccc | י וויאר | рстсс | CTIA | GNGC | יייא כייי | രസ (| 2 እ <i>ር</i> ጥረ | стаста | 1891 |
| 233 TG | GGGGG | GTG (| | | | | | | | | | | | | | 1891 1951 |
| 233 TG | GGGGG TGCTG | GTG (GGG <i>1</i> | ATGG | GCAG | CT GO | CGCC | rgcc: | g GC: | rcgg | | | | | | | 1951 |
| 233 TG 235 TG 237 AC | GGGGG TGCTG AGCTG | GTG (GGG 1 GGC 1 | ATGG(IGAA | GCAG(ACCT(| CT GO | CGCC | rgcc: | GC: | rcgg | | | | | | | |
| 233 TG 235 TG 237 AC 241 (2 | GGGGG TGCTG AGCTG) INF | GTG (GGG ! GGC ! ORMA! | ATGGO TGAA! TION | GCAGO ACCTO FOR | CT GO GA A <i>l</i> SEQ | CGCCT AAAA! ID 1 | rgcc: Aaaa No: 2 | r gc: A AAA 2: | rcgg | | | | | | | 1951 |
| 233 TG 235 TG 237 AC | GGGGG TGCTG AGCTG) INF | GTG (GGG ! GGC ! ORMA!) SE(| ATGGO FGAAA FION QUENO | GCAGO ACCTO FOR CE CI | CT GO GA AA SEQ HARAO | CGCCT AAAAA ID 1 CTERI | rgcc: Aaaa No: 2 Istic | GC: A AAA 2: CS: | rcgg(A | | | | | | | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 | GGGGG TGCTG AGCTG) INF | GTG (GGG 1 GGC 1 ORMA1) SE(| ATGG(FGAA! FION QUEN(A) LI | GCAGO ACCTO FOR CE CI ENGTI | CT GO GA AA SEQ HARAO H: 50 | CGCCT AAAA! ID 1 | rgcc: AAAAA NO: 2 ISTIC mino | GC: A AAA 2: CS: | rcgg(A | | | | | | | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 | GGGGG TGCTG AGCTG) INF | GTG (GGG ! GGC ! ORMA!) SE(| ATGG(FGAA! FION QUEN(A) LI B) T | GCAGO ACCTO FOR CE CH ENGTH | CT GO GA AA SEQ HARAO H: 50 | CGCCTAAAAA ID 1 CTER1 03 an | TGCCT AAAAA NO: 2 ISTIC mino cid | GC: A AAA 2: CS: | rcgg(A | | | | | | | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 | GGGGG TGCTG AGCTG) INF | GTG (GGG ! GGC ! ORMA!) SE(| ATGGO FGAAA FION QUENC A) LI B) TS | GCAGO ACCTO FOR CE CH ENGTH YPE: | CT GC GA AA SEQ HARAC H: 50 amir | CGCCTAAAAAAACTERI CTERI O3 am O3 am O3 am | TGCCT AAAAA NO: 2 ISTIC mino cid car | GC: A AAA 2: CS: | rcgg(A | | | | | | | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 | GGGGG TGCTG AGCTG) INF (i | GTG (GGG 1 GGC 5 ORMA: | ATGGO TGAAA TION QUENC A) LI 3) TO C) TO | GCAGO ACCTO FOR CE CH ENGTH YPE: OPOLO LE TY | CT GO SA AA SEQ HARAO H: 50 amir OGY: | CGCCTAAAAA ID 1 CTERI 03 am 10 ac line prot | TGCC: AAAAA NO: 2 ISTIC mino cid car tein | GCT A AAA 2: CS: acid | rcgg(\ ls | ccc | CAGO | | | | | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 | GGGGG TGCTG AGCTG) INF (i (ii (xi | GTG (GGG AGGC COMMAND) SEQUENTIAL (I | ATGGO FGAAA FION QUENC A) LI B) T C) T C QUENC QUENC QUENC | GCAGO ACCTO FOR CE CH ENGTH YPE: DPOLO LE TY CE DE | CT GO GA AI SEQ HARACH: 50 amir DGY: VPE: | EGCCTAAAAA ID 1 ETERI)3 am no ac line prot | TGCCTAAAAANO: 2 ISTIC mino cid ear tein | F GCTA AAAA2: CS: acid | rcgg(A A ds | D: 2: | CAGO | CCAC | ecc 1 | AGCC <i>I</i> | AAAAT | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 247 249 Me | GGGGG TGCTG AGCTG) INF (i (ii (xi | GTG (GGG AGGC COMMAND) SEQUENTIAL (I | ATGGO FGAAA FION QUENC A) LI B) T C) T C QUENC QUENC QUENC | GCAGO ACCTO FOR CE CH ENGTH YPE: DPOLO LE TY CE DE | CT GO GA AI SEQ HARACH: 50 amir DGY: VPE: | EGCCTAAAAA ID 1 ETERI)3 am no ac line prot | TGCCTAAAAANO: 2 ISTIC mino cid ear tein | F GCTA AAAA2: CS: acid | rcgg(A A ds | D: 2: | CAGO | CCAC | ecc 1 | AGCC <i>I</i> | AAAAT | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 247 249 Me | GGGGG TGCTG AGCTG) INF (ii (xi t Thr | GTG (GGG AGGC TO SEGENTAL SEGE | ATGGO FGAAA FION QUENC A) LI B) TS C) TC LECUI QUENC Gly | GCAGO FOR FOR CE CH ENGTH PE: OPOLO LE TY CE DH Ser 5 | CT GC GA AA SEQ HARAC H: 50 amir CGY: VPE: ESCR: | CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | TGCCT AAAAA NO: 2 ISTIC nino cid ear tein DN: 8 | F GCT A AAA 2: CS: acid | rcgg A ds ID No Leu 10 | D: 2: Leu | CAGO | Leu | Leu | Met 15 | AAAAAT | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 247 249 Me 250 | GGGGG TGCTG AGCTG) INF (ii (xi t Thr | GTG (GGG AGGC TO SEGENTAL SEGE | ATGGO FGAAA FION QUENC A) LI B) TS C) TC LECUI QUENC Gly | GCAGO FOR FOR CE CH ENGTH PE: OPOLO LE TY CE DH Ser 5 | CT GC GA AA SEQ HARAC H: 50 amir CGY: VPE: ESCR: | CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | TGCCT AAAAA NO: 2 ISTIC nino cid ear tein DN: 8 | F GCT A AAA 2: CS: acid | rcgg A ds ID No Leu 10 | D: 2: Leu | CAGO | Leu | Leu | Met 15 | AAAAAT | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 247 249 Me 250 252 Le 253 255 Th | GGGGG TGCTG AGCTG (ii (xi t Thr 1 | GTG (GGG AGGC TO CAMATA) SE(AGGC TO CAMATA) SE(AGGC TO CAMATA) SE(AGGC TO CAMATA CAMAT | ATGGO FGAAA FION QUENC A) LH B) TS C) TC LECUI QUENC Gly Gln 20 | GCAGG FOR FOR CE CH ENGTH YPE: DPOLG LE TY CE DH Ser 5 Gly | CT GC GA AM SEQ HARACH: 5C amin CGY: YPE: ESCR: Pro Asp | EGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | rgcc: AAAAA NO: : ISTIC mino cid ear tein DN: : Lys | E GCT A AAA 2: CS: acid GEQ Gly Lys 25 | rCGGGA A ds ID NO Leu 10 Pro | D: 2: Leu Ser | CAGO Met | Leu Gly | Leu Pro 30 | Met 15 Leu | Ala Val | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 247 249 Me 250 252 Le 253 255 Th 256 | GGGGG TGCTG AGCTG) INF (ii (xi t Thr 1 u Val r Cys | GTG (GGG AGGC TO CAMATO) SECON (AGGC TO CAMATO) SECON (AGGC TO CAMATO) SECON (AGGC TO CAMATO TO CAMA | ATGGO FGAAA FION QUENC A) LI B) TO CLECUI QUENC Gly Gln 20 Cys | GCAGO ACCTO FOR CE CH ENGTH YPE: DPOLO LE TY CE DH Ser Gly Glu | CT GG SEQ HARAG H: 50 amin OGY: VPE: ESCRI Pro Asp Ser | AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | AAAAA NO: 2 ISTIC mino cid ear tein ON: 3 Lys Val | GEQ Constitution of the co | CCGGGA ds Leu 10 Pro Lys | D: 2: Leu Ser Gly | CAGO Met Arg | Leu Gly Thr 45 | Leu Pro 30 Cys | Met 15 Leu Arg | Ala Val Gly | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 247 249 Me 250 252 Le 253 255 Th 256 258 A1 | GGGGG TGCTG AGCTG) INF (ii (xi t Thr l u Val r Cys a Trp | GTG (GGG AGGC TO CAMATO) SECOND Thr Thr Thr GTG (AGGC TO CAMATO) SECOND THR Thr Thr | ATGGO FGAAA FION QUENC A) LI B) TO CLECUI QUENC Gly Gln 20 Cys | GCAGO ACCTO FOR CE CH ENGTH YPE: DPOLO LE TY CE DH Ser Gly Glu | CT GG SEQ HARAGH: 50 amin OGY: VPE: ESCRI Pro Asp Ser | AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | AAAAA NO: 2 ISTIC mino cid ear tein ON: 3 Lys Val | GEQ Constitution of the co | CCGGGA ds Leu 10 Pro Lys | D: 2: Leu Ser Gly | CAGO Met Arg Pro | Leu Gly Thr 45 | Leu Pro 30 Cys | Met 15 Leu Arg | Ala Val Gly | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 247 249 Me 250 252 Le 253 255 Th 256 258 A1 259 | GGGGG TGCTG AGCTG) INF (ii (xi t Thr 1 u Val r Cys a Trp 50 | GTG (GGG AGGC TO CAMA:) SE(GC TO CAMA:) MOI) MOI) SE(GC TO CAMA: Thr Thr 35 Cys | ATGGO FGAA FION QUENC A) LH B) TS C) TC LECUI QUENC Gly Gln 20 Cys | GCAGG ACCTG FOR CE CH ENGTH YPE: DPOLG LE TY CE DH Ser 5 Gly Glu Val | CT GG SEQ HARAG H: 50 amin OGY: VPE: ESCRI Pro Asp Ser Val | AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | AAAAA NO: 2 ISTIC mino cid ear tein ON: 3 Lys Val His 40 Val | GEQ Constitution of the co | TCGGGA is Leu 10 Pro Lys Glu | D: 2: Leu Ser Gly | CAGO Met Arg Pro Gly 60 | Leu Gly Thr 45 Arg | Leu Pro 30 Cys | Met 15 Leu Arg | Ala Val Gly Gln | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 247 249 Me 250 252 Le 253 255 Th 256 258 A1 259 261 G1 | GGGGGGTGCTGAGCTG(ii) (ii) (xi) (xi) t Thr 1 u Val r Cys a Trp 50 u His | GTG (GGG AGGC TO CAMA:) SE(GC TO CAMA:) MOI) MOI) SE(GC TO CAMA: Thr Thr 35 Cys | ATGGO FGAA FION QUENC A) LH B) TS C) TC LECUI QUENC Gly Gln 20 Cys | GCAGG ACCTG FOR CE CH ENGTH YPE: DPOLG LE TY CE DH Ser 5 Gly Glu Val | CT GG SEQ HARAGH: 5G amin DGY: VPE: ESCRI Pro Asp Ser Val | AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | AAAAA NO: 2 ISTIC mino cid ear tein ON: 3 Lys Val His 40 Val | GEQ Constitution of the co | TCGGGA is Leu 10 Pro Lys Glu | D: 2: Leu Ser Gly Glu | CAGO Met Arg Pro Gly 60 | Leu Gly Thr 45 Arg | Leu Pro 30 Cys | Met 15 Leu Arg | Ala Val Gly Gln Arg | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 247 249 Me 250 252 Le 253 255 Th 256 258 A1 259 261 G1 262 6 | GGGGGGTGCTGAGCTG(ii) (ii) (xi) (xi) t Thr 1 u Val r Cys a Trp 50 u His 5 | GTG (GGG AGGC TO AGG | ATGGO FGAAA FION QUENC A) LH B) TO CLECUI QUENC Gly Gln 20 Cys Thr | GCAGGACCTG FOR FOR CE CHENGTH YPE: DPOLG LE TY CE DH Ser 5 Gly Glu Val | CT GG SA AM SEQ HARAGH: 50 amin DGY: VPE: ESCRI Pro Asp Ser Val Gly 70 | CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | AAAAA NO: 2 ISTIC mino cid ear tein DN: 3 Lys Val His 40 Val Leu | E GCT A AAA 2: CS: acid Gly Lys 25 Cys Arg | CCGGGA ds Leu 10 Pro Lys Glu Arg | D: 2: Leu Ser Gly Glu Glu 75 | : Met Arg Pro Gly 60 Leu | Leu Gly Thr 45 Arg Cys | Leu Pro 30 Cys His | Met 15 Leu Arg Pro Gly | Ala Val Gly Gln Arg 80 | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 247 249 Me 250 252 Le 253 255 Th 256 258 Al 259 261 Gl 262 6 264 Pr | GGGGGGTGCTGAGCTG(ii) (ii) (xi) (xi) t Thr 1 u Val r Cys a Trp 50 u His 5 | GTG (GGG AGGC TO AGG | ATGGO FGAAA FION QUENC A) LH B) TO CLECUI QUENC Gly Gln 20 Cys Thr | GCAGGACCTG FOR FOR CE CH YPE: DPOLG LE TY CE DH Ser 5 Gly Glu Val Cys | CT GG SA AM SEQ HARAGH: 50 amin DGY: VPE: ESCRI Pro Asp Ser Val Gly 70 | CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | AAAAA NO: 2 ISTIC mino cid ear tein DN: 3 Lys Val His 40 Val Leu | E GCT A AAA 2: CS: acid Gly Lys 25 Cys Arg | Cys | D: 2: Leu Ser Gly Glu Glu 75 | : Met Arg Pro Gly 60 Leu | Leu Gly Thr 45 Arg Cys | Leu Pro 30 Cys His | Met 15 Leu Arg Pro Gly Cys | Ala Val Gly Gln Arg 80 | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 247 249 Me 250 252 Le 253 255 Th 256 258 Al 259 261 Gl 262 6 264 Pr 265 | GGGGGGTGCTG AGCTG) INF (ii (xi t Thr 1 u Val r Cys a Trp 50 u His 5 o Thr | GTG (GGG AGGC TO CAMA:) SE(GI (AGGC TO CAMA:) SE(GI (AGGC TO CAMA:) SE(GI (AGGC TO CAMA: Thr 35 Cys Arg Glu | ATGGO FGAAA FION QUENC A) LH B) TY C) TC CUENC Gly Gly Cys Thr Gly Phe | GCAGGACCTG FOR FOR CE CHENGTH YPE: DPOLG LE TY CE DH Ser Sqly Glu Val Cys Val 85 | CT GG SA AM SEQ HARAGH: 5G amir CGY: CYPE: ESCRI Pro Asp Ser Val Gly 70 Asn | EGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | TGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | GEQ Action of the control of the con | Cys 90 | Ser Gly Glu 75 | : Met Arg Pro Gly 60 Leu Ser | Leu Gly Thr 45 Arg Cys | Leu Pro 30 Cys His Arg | Met 15 Leu Arg Pro Gly Cys 95 | Ala Val Gly Gln Arg 80 Asn | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 247 249 Me 250 252 Le 253 255 Th 256 258 Al 259 261 Gl 262 6 264 Pr 265 267 Hi | GGGGGGTGCTG AGCTG) INF (ii (xi t Thr 1 u Val r Cys a Trp 50 u His 5 o Thr | GTG (GGG AGGC TO CAMA:) SE(GI (AGGC TO CAMA:) SE(GI (AGGC TO CAMA:) SE(GI (AGGC TO CAMA: Thr 35 Cys Arg Glu | ATGGO FGAAA FION QUENC A) LI B) TO CLECUI QUENC Gly Gly Cys Thr Gly Phe Ser | GCAGGACCTG FOR FOR CE CH YPE: OPOLG LE TY CE DH Ser Sqly Glu Val Cys Val 85 | CT GG SA AM SEQ HARAGH: 5G amir CGY: CYPE: ESCRI Pro Asp Ser Val Gly 70 Asn | EGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | TGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | E GC: A AAA 2: CS: acid GEQ : Cys Lys 25 Cys Arg His Cys | Cys 90 | Ser Gly Glu 75 | : Met Arg Pro Gly 60 Leu Ser | Leu Gly Thr 45 Arg Cys | Leu Pro 30 Cys His Arg Leu Ser | Met 15 Leu Arg Pro Gly Cys 95 | Ala Val Gly Gln Arg 80 Asn | 1951 |
| 233 TG 235 TG 237 AC 241 (2 242 243 244 245 246 247 249 Me 250 252 Le 253 255 Th 256 258 Al 259 261 Gl 262 6 264 Pr 265 | GGGGGGTGCTG AGCTG) INF (ii (xi t Thr 1 u Val r Cys a Trp 50 u His 50 Thr | GTG (GGG AGGC TO CAMATO) SE(GI) MOID Thr 35 Cys Arg Glu Val | ATGGO FGAAA FION QUENCA) LIA B) TY C) TC LECUI QUENC Gly Gln 20 Cys Thr Gly Phe Ser 100 | GCAGGACCTG FOR CE CH ENGTH YPE: DPOLC LE TY CE DH Ser 5 Gly Glu Val Cys Val 85 Leu | CT GC SA AA SEQ HARACH: 5C amin CGY: CPE: ESCR: Pro Asp Ser Val Gly 70 Asn Val | AAAAAA ID N CTERI O3 ar no ac line prot IPTIC Arg Pro Pro Leu 55 Asn His Leu | AAAAAANO: AAAAAANO: AAAAAANO: AAAAAANO: AAAAAANO: AAAAAANO: AAAAAAAAAA | E GC: A AAA 2: CS: acid Gly Lys 25 Cys Arg His Cys Ala 105 | Cys 90 Thr | Ser Glu Glu 75 Asp Gln | CAGO Met Arg Pro Gly 60 Leu Ser | Leu Gly Thr 45 Arg Cys His | Leu Pro 30 Cys His Arg Leu Ser 110 | Met 15 Leu Arg Pro Gly Cys 95 Glu | Ala Val Gly Gln Arg 80 Asn Gln | 1951 |





| 271 | | | 115 | | | | | 120 | | | | | 125 | | | |
|-----|-------|----------------|-------|------|-------|------|-------|-------|--------|--------|-------|--------|-------|--------|------|------------|
| | Lau | Lau | | Lau | Wa 1 | λlo | Leu | | Val | T.011 | Cl v | T.A.11 | | Hic | Va 1 | Arg |
| 273 | пеп | 130 | АІа | neu | vai | нта | 135 | Gry | Val | цец | GLY | 140 | ттр | 1172 | vai | AIG |
| | λνα | | Cln | Clu | Tuc | Gln | | G1 17 | Lau | Wic | Sar | | Leu | Clv | Glu | Sar |
| | 145 | Alg | GIII | GIU | цуз | 150 | AIG | Gry | пеп | nis | 155 | GIU | пец | GLY | GIU | 160 |
| | | Tou | Tlo | Tou | Tvc | Ala | 202 | Clu | Cln | C1 v | | Thr | Mot | LOU | Clv | |
| 280 | ser | ьец | ire | ьеи | 165 | Ald | ser | GIU | GIII | 170 | ASP | TIIT | Met | ьец | 175 | кър |
| | T 011 | T 011 | 7 an | Cor | | Ctra | Шhх | mbr | C1** | | C1++ | 802 | C1 17 | T 011 | | Dho |
| 283 | ьец | ьeu | ASP | 180 | ASP | Cys | 1111 | 1111 | 185 | 261 | GIY | Ser | GLY | 190 | FIU | FILE |
| | T OU | 17- 1 | cln | | Thr | Val | λla | λνα | | 17 a 1 | 7 l n | Tou | Va l | | Cvc | Wa I |
| 286 | пеп | Val | 195 | Arg | 1111 | val | Ата | 200 | GIII | vai | AIG | пец | 205 | Giu | Cys | Val |
| | Glv | Lare | | Δra | Фиг | Gly | Glu | | Ψrn | Δrσ | G1v | T.011 | | Hic | Glv | Glu |
| 289 | GLY | 210 | GLY | nry | - Y - | GIY | 215 | Val | 111 | Arg | GLY | 220 | 111 | 1113 | OLY | Olu |
| | Sar | | λla | Va 1 | Tare | Ile | | Ser | Ser | Δra | Men | | Gln | Ser | Ψrn | Phe |
| | 225 | val | нта | Val | цуз | 230 | rne | 261 | 361 | лгу | 235 | GIU | GIII | Jer | TIP | 240 |
| | | Glu | Thr | Glu | Tla | Tyr | λen | ጥh r | Val | T.e.u | | Δτα | ніс | Aen | λen | |
| 295 | лгу | Giu | 1111 | GIU | 245 | TYT | ASII | 1111 | Val | 250 | цец | пта | 1113 | изъ | 255 | 110 |
| | T.211 | GÍ v | Dho | Tla | | Ser | Acn | Mot | Thr | | Δτα | Δen | Ser | Ser | | Gln |
| 298 | пеп | GLY | riic | 260 | пта | 561 | АЗР | Het | 265 | 301 | nry | H311 | JCI | 270 | 1111 | GIII |
| | T.e.u | Ψrn | T.e.u | | Thr | His | Фυν | Hic | | Hic | G1 v | Ser | T.e.u | | Asn | Phe |
| 301 | пеп | 115 | 275 | 116 | 1111 | 1115 | - Y - | 280 | Giu | 1113 | GLY | 361 | 285 | - Y - | пор | THE |
| | T.e.u | Gln | | Gl n | Ψhr | Leu | Glu | | His | T.e.u | Δla | T.e.11 | | T.e.11 | Δla | ۷al |
| 304 | цси | 290 | nry | GIII | 1111 | пси | 295 | 110 | 1113 | шец | niu | 300 | nr 9 | пси | niu | 741 |
| | Sar | | λl = | Cvc | G1 v | Leu | | иie | T.e.11 | Hic | Va l | | Tle | Dhe | Glv | Thr |
| | 305 | niu | пци | Cys | Ω±¾ | 310 | niu | 1113 | шси | 1113 | 315 | Olu | 110 | 1110 | 017 | 320 |
| | | Glv | T.vs | Pro | Δla | Ile | Δla | His | Arσ | Asp | | T.VS | Ser | Ara | Asn | |
| 310 | OIII | O ₁ | ц | 110 | 325 | 110 | | | **** 9 | 330 | - 110 | 2,5 | 001 | *** 9 | 335 | |
| | Len | Val | T.VS | Ser | | Leu | Gln | Cvs | Cvs | | Ala | Asp | Leu | Glv | | Ala |
| 313 | Lou | | 110 | 340 | | | • | 0,10 | 345 | | | | | 350 | | |
| | Val | Met | His | | Gln | Gly | Ser | Asp | | T.eu | Asp | Tle | Glv | | Asn | Pro |
| 316 | | 1100 | 355 | JU1 | 01 | 0-1 | 001 | 360 | -1- | | | | 365 | | | |
| | Ara | Val | | Thr | Lvs | Arg | Tvr | | Ala | Pro | Glu | Val | | Asp | Glu | Gln |
| 319 | , | 370 | 1 | | -1 - | 5 | 375 | | | | | 380 | | | | |
| | Ile | Ara | Thr | Asp | Cvs | Phe | Glu | Ser | Tvr | Lvs | Trp | Thr | Asp | Ile | Trp | Ala |
| | 385 | 5 | | • | - 4 | 390 | | | | _ | 395 | | • | | | 400 |
| 324 | Phe | Gly | Leu | Val | Leu | Trp | Glu | Ile | Ala | Arq | Arq | Thr | Ile | Val | Asn | Gly |
| 325 | | • | | | 405 | • | | | | 410 | • | | | | 415 | - |
| 327 | Ile | Val | Glu | Asp | Tyr | Arg | Pro | Pro | Phe | Tyr | Asp | Val | Val | Pro | Asn | Asp |
| 328 | | | | 420 | _ | _ | | | 425 | - | - | | | 430 | | • |
| | Pro | Ser | Phe | | Asp | Met | Lys | Lys | | Val | Cys | Val | Asp | Gln | Gln | Thr |
| 331 | | | 435 | | - | | - | 440 | | | - | | 445 | | | |
| 333 | Pro | Thr | Ile | Pro | Asn | Arg | Leu | Ala | Ala | Asp | Pro | Val | Leu | Ser | Gly | Leu |
| 334 | | 450 | | | | - | 455 | | | _ | | 460 | | | _ | |
| 336 | Ala | Gln | Met | Met | Arg | Glu | Cys | Trp | Tyr | Pro | Asn | Pro | Ser | Ala | Arg | Leu |
| | 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| | | Ala | Leu | Arg | Ile | Lys | Lys | Thr | Leu | Gln | | Ile | Ser | Asn | Ser | Pro |
| 340 | | | | - | 485 | - | - | • | | 490 | _ | | | | 495 | |
| 342 | Glu | Lys | Pro | Lys | Val | Ile | Gln | | | | | | | | | |
| 343 | | | | 500 | | | | | | | | | | | | |

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/903,068

DATE: 01/16/2002

TIME: 15:53:54

Input Set : N:\Crf3\RULE60\09903068.raw
Output Set: N:\CRF3\01162002\I903068.raw

L:27 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]

L:28 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]

L:2726 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26